REMARKS

This paper is responsive to the Office Action mailed February 12, 2009. This Response addresses each of the issues raised by the examiner in the Office Action. Accordingly reconsideration is respectfully requested.

Status of Claims

Claims 1-34, 36-44 and 46-48 are pending in the prosecution of this application.

Claims 1-34, 36-44 and 46-48 were rejected in the Office Action under §101 but indicated as allowable if rewritten or amended to overcome the rejection under §101.

Claim Rejections – 35 USC §101

In paragraph 4 on page 2 of the Office Action, claims 1-34, 36-44 and 46-48 were rejected under §101. On page 3, in the same paragraph, the Examiner indicates that the steps of "providing a list of features, generating candidate partitions, and scoring the partitions", could be carried out by hand by a user, without using a computer or processor. Applicant respectfully traverses this rejection given that applicant's method is directed to patentable subject matter and fundamentally cannot be carried out by hand by a user.

As pointed out by the Examiner, recent Supreme Court and Federal Circuit decisions have indicated that a process must either be tied to a particular machine or apparatus *or* transform a particular article to a different state or thing. The court in *In re Bilski* suggested that a process is not patent-eligible where every step may be performed by the human mind. The court also stressed that the determination of patent-eligible subject matter is to continue to be determined on a <u>case-by-case</u> basis.

In this case, every step of the process may not be performed by the human mind, but conversely the process in fact necessitates a particular machine in order to carry out the method steps. Furthermore, the method transforms a pattern, based upon a scored candidate partition determined by applying a search pattern to the original pattern, into an optimized sub-pattern.

Applicant claims and describes a method for partitioning a pattern into optimized sub-patterns, a complex method using machine vision technology to perform pattern recognition. Reference to machine vision is found, for example, on page 1 of the specification, in the field of the invention. Machine vision technology in and of itself necessitates a particular machine be employed, as the patterns in an image are not capable of being recognized by the human eye and machine vision is itself a process that is adapted in the *absence* of or to supplement human vision and recognition. Computing devices examine individual features within a pattern, process the features, and develop optimized patterns. This process is specifically needed to afford a computer the capability to carry out visual recognition – a highly complex process that the human brain performs with substantially less effort than a computer.

Moreover, a human brain undertaking visual recognition does not provide a list of features of the pattern and generate a set of candidate partitions in the manner as claimed and described by applicant. Referring to the second paragraph on page 2 in the background section of the application, the deficiencies associated with a human being are discussed, and the need to automate the process so that an original pattern can be transformed into optimized sub-patterns.

As claimed and described, the pattern is analyzed to provide a representative feature list by any known *feature extraction method*. For an exemplary feature extraction method, see the first full paragraph on specification page 12, and Figs. 1a and 1b, describing one feature

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extraction method. As described, the pattern image is sampled using machine vision technology to provide an array of points. The sampling can also use a brightness level to provide the feature list, or any other appropriate feature extraction method known to those skilled in the art.

The step of scoring each candidate partition, as claimed in claim 1, "wherein each candidate partition is scored using a scoring function based on characteristics of a sub-pattern derived therefrom and wherein the characteristics of the sub-pattern includes an overall 'suitability' of the sub-pattern used as a search pattern applied to the original pattern" cannot be carried out by a human being. As stated in the second and third paragraphs on specification page 16, the "suitability" of a sub-pattern is determined by *running* the search algorithm on the training image. A candidate partition scores "well" (and is thus suitable) if the sub-pattern returns only one "match". Conversely, a candidate partition scores "poorly" (and is thus unsuitable) if the sub-pattern returns multiple matches to the original pattern.

As claimed in claim 1, the set of candidate partitions are each scored according to the overall suitability of the sub-pattern. A human being does not have the capabilities of "running" a search pattern on a training image of the original pattern, to thereby determine the suitability, and thus the score of the candidate partition. The method necessitates a machine perform at least the step of scoring each candidate partition using a scoring function, based on a suitability of the sub-pattern.

Furthermore, the method transforms the original pattern into a plurality of sub-lists representing a plurality of optimized sub-patterns. This is accomplished through scoring each candidate partition by applying a search pattern to the original pattern. Using machine vision technology, the original pattern is thereby transformed into optimized sub-patterns. In a realistic

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sense, such a transformation of patterns in the context of machine vision (a device-based process as defined hereinabove) involves the transformation of stored electronic data from one form to another. Applicant submits that this therefore satisfies a requirement for patentable subject matter.

The claims should now be in condition for allowance with each of the objections and/or rejections being addressed or traversed. Accordingly applicant respectfully requests the examiner to issue a Notice of Allowance at the earliest possible date.

Should any unresolved issues remain that require, it is respectfully requested that the Examiner telephone the undersigned attorney for applicant at 603-336-3026 so that such issues may be resolved as expeditiously as possible.

Please charge any fee or fee deficiency that is otherwise unpaid to Deposit Account Number 504479.

Respectfully Submitted,

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